Jan. 30, 1951 R. GORDON 2,539,776

INSULATION WIRE STRIPPING AND CUTTING INSTRUMENT

Filed Nov. 5, 1945

Fig. 1.

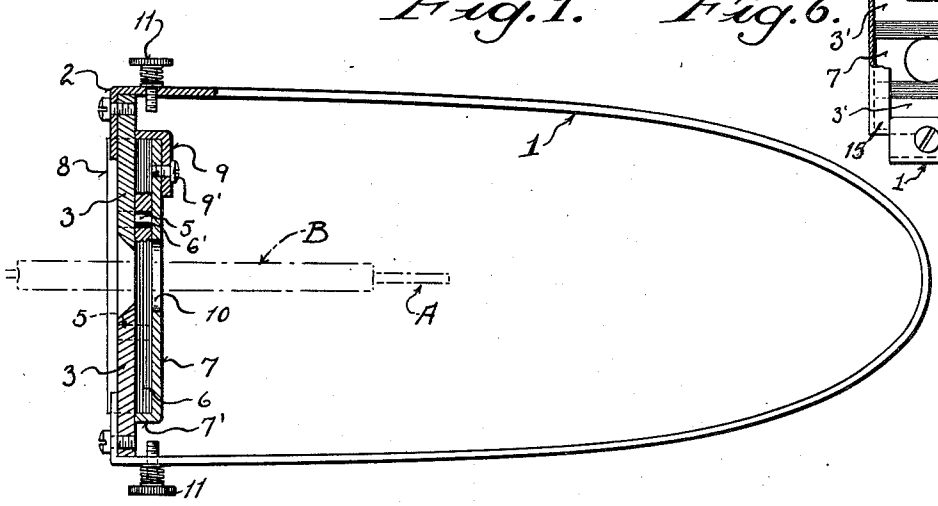


Fig. 6.

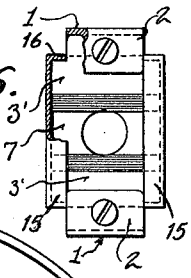


Fig. 2.

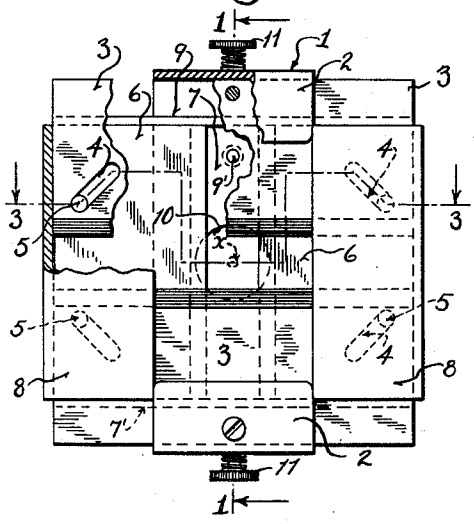


Fig. 4.

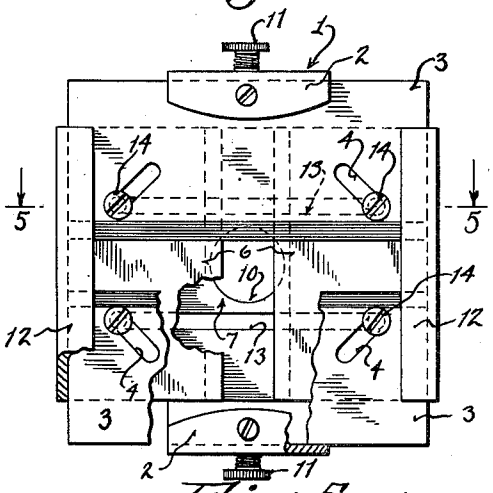


Fig. 3.

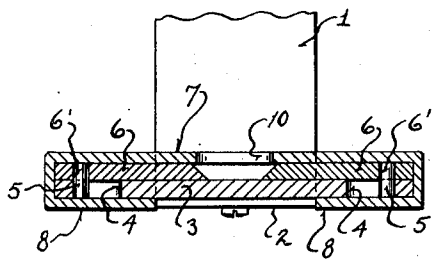
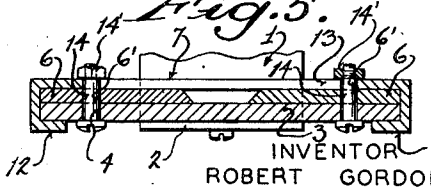


Fig. 5.



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INSULATION WIRE STRIPPING AND CUTTING INSTRUMENT

Robert Gordon, Milwaukee, Wis.

Application November 5, 1945, Serial No. 626,657

1 Claim. (Cl. 81—9.5)

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My invention refers to instruments for selectively stripping the insulation from electric wires, or for cutting the same.

My present invention particularly refers to improvements in wire stripping devices such as disclosed in my Patent No. 2,383,479, August 28, 1945.

The specific objects of my invention are:

To provide a housing for encasing and guiding pairs of rectangular reciprocative blades, whereby the movements of each set of blades is positively guided to eliminate friction in a wire cutting or an insulation stripping operation.

To provide the housing with flanges, whereby the pairs of blades are encased and guided along their respective edges.

To provide a housing with a removable flange, whereby the blades may readily be dismantled for sharpening.

To provide angular slots and anchor pin assemblage for the sets of blades in conjunction with the housing, whereby the assemblage is confined.

To provide adjustable stops carried by a U-shaped handle, whereby a contractile movement of the pairs of blades are limited to thus insure stripping of the insulation from a wire without marring or cutting the same.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts, substantially as hereinafter described, and more particularly defined by the appended claim, is being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claim.

In the accompanying drawings is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

In the drawings:

Figure 1 represents a side elevation of a tool embodying the features of my invention, the same being in section as indicated by line 1—1 of Figure 2,

Figure 2 is a front face view of the tool head, with parts broken away and in section to more clearly illustrate structural features,

Figure 3 is a cross section of the instrument head, the section being indicated by line 3—3 of Figure 2,

Figure 4 is a front elevation of the tool head with parts broken away and in section, the same

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illustrating a modified form of housing and guide pins connecting the blades,

Figure 5 is a cross section of the same, the section being indicated by line 5—5 of Figure 4, and

Figure 6 is a face view of a modified head.

Referring by characters to the drawings, 1 indicates a U-shaped spring metal handle having downturned end lips 2—2, preferably in rectangular form. The lips are secured to a pair of rectangular blades 3—3 having inner bevelled edges. The pairs of blades 3 are formed with angular slots 4—4, into which are extended actuating pins 5—5.

The pair of handle carried blades 3—3 abut a corresponding pair of reciprocative blades 6—6, which blades are provided with apertures 6' for anchoring the actuating pins 5. Hence, when the U-shaped handle is compressed, the blade slots 4 engaging the pins 5 will thus cause the companion pair of blades 6 to simultaneously move towards an imaginary axis x, in conjunction with a corresponding movement of the handle carried blades 3.

To guide and properly confine the pairs of oppositely actuated blades, I provide a floating housing 7 having inwardly extended outer U-shaped flanges 8—8, which frictionally engage the faces of the handle carried blades and their edges, whereby said blades will be smoothly guided in their reciprocative movement.

It will also be noted that the flanges 8 of the housing, also encase the loose actuating pins 5, while the rear ends of said pins are similarly engaged and confined by the rear wall of the housing 7.

It will be noted that the bottom end of the housing rear wall is inwardly turned to form a flange 7', while the upper edge of said housing wall has secured thereto an angle iron flange 9 by a screw 9'. Thus the upper and lower flanged edges of the housing engage edges of the blades 6—6, whereby said blades are guided in their reciprocative movement towards the imaginary center of axis x.

The rear wall of the housing is also provided with an opening 10 therein for the reception of a wire to be treated, the said wire, being indicated at A, in dotted lines, having an insulating jacket B thereon.

Should it be desired to cut the insulation B from the wire A, I provide a pair of threaded adjustable stop pins 11, which pins are carried by the jaws of the U-shaped handle. These pins are aligned with the upper and lower flanged edges

of the housing, whereby, upon compression of the handle, the pins will engage the housing flanges and limit the contractile cutting action of both sets of blades to thus insure severing the insulation B without injury to the wire.

Obviously, when it is desired to cut the wire, the adjusting pins 11 are arranged to permit the pairs of blades to come together upon the axis point, indicated at *x*, whereby the wire will be completely severed. It should also be understood that in operating the tool for cutting purposes, the U-shaped handle is not only compressed but the tool head is rotated back and forth about the wire to complete the cut.

Referring now particularly to Figures 4 and 5 of the drawings, in this modified form of my invention, the housing is simply provided with U-shaped inturned flanges 12—12 and the upper and lower edges of the back of the housing terminate free of the blade guiding flanges. In this exemplification of my invention, the back wall of the housing 7, in addition to the opening 10 therein, is provided with longitudinally disposed slots 13—13 running in parallel relations to the pair of handle carried blades 3—3. The pairs of blades, in this instance, are confined by bolts 14—14, which pass through apertures in the blades 6—6 and angle slots 4 of the handle carried blades 3. The bolts 14 thus extend through the horizontal slots 13—13, whereby the blades 3 are guided and are provided with suitable shouldered confining nuts 14'.

In the operation of the described modified form, when the spring handle is depressed together with the blades 3, they are vertically guided by the housing flanges. The bolts 14, carried by the horizontally movable blades 6, then engage the angle slots 4, of the handle carried blades 3, whereby said blades 6 are guided in the horizontal slots 13, will be contracted about the wire opening 10 to engage a wire for stripping the insulation therefrom, or for cutting the same.

By this arrangement, it will be noted that the blades 6—6 are guided in their movement by the housing slots 13 and when it is desired to remove both sets of blades, all that is necessary is that the confining nuts 14', of the bolts, be removed. Thus it will be seen in that form of my invention, shown in Figures 4 and 5 of the drawings, a simplicity in structure dominates, while at the same time, all of the required guiding features are maintained.

Referring particularly to Figure 6 of the drawings, the same shows a single pair of cutting blades 3', vertically reciprocative in vertically channeled guide flanges 15 of the housing 7 and said flanges 15 are closed at their ends by shoulders 16 which engage the blades under spring tension of the handle, whereby the floating housing is supported. In this instance, the single pair of cutting blades are secured to the lips 2 of the U-shaped spring metal handle 1.

I claim:

A wire cutting and insulation stripping tool comprising a housing having U-shaped side flanges, the housing being provided with parallel slots, a pair of angularly slotted blades, a U-shaped spring metal handle secured to said blades, a second pair of blades positioned at a right angle to the first pair, and pins carried by the second set of blades extending through the housing slots and engaging the angular slots of the first mentioned pair of blades.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
893,132	Bork	July 14, 1908
1,065,679	Gregson	June 24, 1913
2,313,793	Wood	Mar. 16, 1943
2,383,479	Gordon	Aug. 28, 1945

FOREIGN PATENTS

Number	Country	Date
332,906	Germany	July 23, 1919